



SEQUENCE LISTING

<110> Jean-Louis Ruelle

<120> BASB019 Proteins and Genes from
Moraxella Catarrhalis Antigens, Antibodies, and Uses

<130> BM45311

<140> US 09/674,779

<141> 2001-01-03

<150> PCT/EP/99/03038

<151> 1999-05-03

<150> GB9809683.7

<151> 1998-05-06

<160> 14

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 519

<212> DNA

<213> Moraxella catarrhalis

<400> 1

atgatgttac atattcaa	atgcccgcgt gccgcgcgtt	tatcggtact aacttttatg	60
acaggctgtg ccaataaatc	aacaagtcaa gttatggttg	ctcctaatagc acccacaggt	120
tacactgggg ttatctatac	tggtgttgca cctttggtag	ataatgatga gaccgttaag	180
gctctggcaa gcaagctacc	cagtttggtt tattttgact	ttgattctga tgagattaaa	240
ccgcaagctg ctgccatctt	agacgaacaa gcacaatttt	taaccaccaa tcaaacagct	300
cgtgttttgg ttgcaggcca	taccgatgag cgtggtagtc	gtgagtataa tatgtcactg	360
ggggaacgcc gtgcggtggc	ggtacgcaac tatttgcttg	gtaaaggcat taatcaagcc	420
agcgttgaga ttatcagttt	tggtgaagaa cgccctatcg	catttggcac aaatgaagaa	480
gcatggctac aaaatcgctg	tgctgaactg tcttattaa		519

<210> 2

<211> 172

<212> PRT

<213> Moraxella catarrhalis

<400> 2

Met Met Leu His Ile Gln Ile Ala Ala Ala Ala Ala Leu Ser Val	
1 5 10 15	
Leu Thr Phe Met Thr Gly Cys Ala Asn Lys Ser Thr Ser Gln Val Met	
20 25 30	
Val Ala Pro Asn Ala Pro Thr Gly Tyr Thr Gly Val Ile Tyr Thr Gly	
35 40 45	
Val Ala Pro Leu Val Asp Asn Asp Glu Thr Val Lys Ala Leu Ala Ser	
50 55 60	
Lys Leu Pro Ser Leu Val Tyr Phe Asp Phe Asp Ser Asp Glu Ile Lys	

RECEIVED

FEB 04 2003

TECH CENTER 1600/2900

Sub
D2

65		70		75		80									
Pro	Gln	Ala	Ala	Ala	Ile	Leu	Asp	Glu	Gln	Ala	Gln	Phe	Leu	Thr	Thr
		85		90		95									
Asn	Gln	Thr	Ala	Arg	Val	Leu	Val	Ala	Gly	His	Thr	Asp	Glu	Arg	Gly
		100		105		110									
Ser	Arg	Glu	Tyr	Asn	Met	Ser	Leu	Gly	Glu	Arg	Arg	Ala	Val	Ala	Val
		115		120		125									
Arg	Asn	Tyr	Leu	Leu	Gly	Lys	Gly	Ile	Asn	Gln	Ala	Ser	Val	Glu	Ile
		130		135		140									
Ile	Ser	Phe	Gly	Glu	Glu	Arg	Pro	Ile	Ala	Phe	Gly	Thr	Asn	Glu	Glu
		145		150		155								160	
Ala	Trp	Ser	Gln	Asn	Arg	Arg	Ala	Glu	Leu	Ser	Tyr				
			165			170									

<210> 3
 <211> 519
 <212> DNA
 <213> Moraxella catarrhalis

<400> 3	
atgatgttac	atattcaa
acaggctgtg	ccaataa
tacactggg	ttatctata
gctctagcaa	gcacgctacc
ccgcaagctg	ctgccatctt
cgtgttttgg	ttgcagggtca
ggggaacgtc	gtgcgggtggc
agcggttgaga	ttatcagttt
gcatgggtcac	aaaatcgctg
	tgctgaactg
	tcttattaa
	60
	120
	180
	240
	300
	360
	420
	480
	519

<210> 4
 <211> 172
 <212> PRT
 <213> Moraxella catarrhalis

<400> 4															
Met	Met	Leu	His	Ile	Gln	Ile	Ala	Ala	Ala	Ala	Ala	Ala	Leu	Ser	Val
1		5		10		15									
Leu	Thr	Phe	Met	Thr	Gly	Cys	Ala	Asn	Lys	Ser	Thr	Ser	Gln	Val	Met
		20		25		30									
Val	Ala	Pro	Asn	Ala	Pro	Thr	Gly	Tyr	Thr	Gly	Val	Ile	Tyr	Thr	Gly
		35		40		45									
Val	Ala	Pro	Leu	Val	Asp	Asn	Asp	Glu	Thr	Val	Lys	Ala	Leu	Ala	Ser
		50		55		60									
Thr	Leu	Pro	Ser	Leu	Val	Tyr	Phe	Asp	Phe	Asp	Ser	Asp	Glu	Ile	Lys
		65		70		75								80	
Pro	Gln	Ala	Ala	Ala	Ile	Leu	Asp	Glu	Gln	Ala	Gln	Phe	Leu	Thr	Thr
		85		90		95									
Asn	Gln	Thr	Ala	Arg	Val	Leu	Val	Ala	Gly	His	Thr	Asp	Glu	Arg	Gly
		100		105		110									
Ser	Arg	Glu	Tyr	Asn	Met	Ser	Leu	Gly	Glu	Arg	Arg	Ala	Val	Ala	Val
		115		120		125									
Arg	Asn	Tyr	Leu	Leu	Gly	Lys	Gly	Ile	Asn	Gln	Ala	Ser	Val	Glu	Ile
		130		135		140									
Ile	Ser	Phe	Gly	Glu	Glu	Arg	Pro	Ile	Ala	Phe	Gly	Thr	Asn	Glu	Glu

atgatgttac	atattcaa	atgcccgtgct	gccgccgctt	tatcggtact	aacttttatg	60
acaggctgtg	ccaataaatc	aacaagtcaa	gttatgggtg	ctcctaatagc	acccacgggt	120
tacgctggcg	ttatctacac	tggtggtgca	cctttggtag	ataatgatga	gaccgtcaag	180
gctttggcaa	gcacgctacc	cagtttggtt	tattttgact	ttgattctga	tgagattaaa	240
ccgcaagctg	ctgccatctt	agacgaacaa	gcacaatttt	taaccaccaa	tcaaacagct	300
cgtgttttgg	ttgcaggtca	taccgatgag	cgtggtagtc	gtgagtataa	tatgtcactg	360
ggggaacgcc	gtgcggtggc	ggtacgcaac	tatttgctta	gtaaaggcat	caatcaagcc	420
agcgttgaga	ttatcagttt	tggtgaagaa	cgccctatcg	catttggcac	aatgaagaa	480
gcatggtcac	aaaatcgctg	tgctgaactg	tcttattaa			519

<210> 8
 <211> 172
 <212> PRT
 <213> Moraxella catarrhalis

<400> 8

Met	Met	Leu	His	Ile	Gln	Ile	Ala	Ala	Ala	Ala	Ala	Ala	Leu	Ser	Val
1				5					10					15	
Leu	Thr	Phe	Met	Thr	Gly	Cys	Ala	Asn	Lys	Ser	Thr	Ser	Gln	Val	Met
			20					25					30		
Val	Ala	Pro	Asn	Ala	Pro	Thr	Gly	Tyr	Ala	Gly	Val	Ile	Tyr	Thr	Gly
		35					40					45			
Val	Ala	Pro	Leu	Val	Asp	Asn	Asp	Glu	Thr	Val	Lys	Ala	Leu	Ala	Ser
		50				55					60				
Thr	Leu	Pro	Ser	Leu	Val	Tyr	Phe	Asp	Phe	Asp	Ser	Asp	Glu	Ile	Lys
65					70				75					80	
Pro	Gln	Ala	Ala	Ala	Ile	Leu	Asp	Glu	Gln	Ala	Gln	Phe	Leu	Thr	Thr
				85					90					95	
Asn	Gln	Thr	Ala	Arg	Val	Leu	Val	Ala	Gly	His	Thr	Asp	Glu	Arg	Gly
			100					105					110		
Ser	Arg	Glu	Tyr	Asn	Met	Ser	Leu	Gly	Glu	Arg	Arg	Ala	Val	Ala	Val
		115					120					125			
Arg	Asn	Tyr	Leu	Leu	Ser	Lys	Gly	Ile	Asn	Gln	Ala	Ser	Val	Glu	Ile
		130					135				140				
Ile	Ser	Phe	Gly	Glu	Glu	Arg	Pro	Ile	Ala	Phe	Gly	Thr	Asn	Glu	Glu
145					150				155					160	
Ala	Trp	Ser	Gln	Asn	Arg	Arg	Ala	Glu	Leu	Ser	Tyr				
				165					170						

<210> 9
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer sequence

<400> 9
 cccttattaa ttgacaatca c

21

<210> 10
 <211> 19
 <212> DNA
 <213> Artificial Sequence

<220>
<223> Primer sequence

<400> 10
ggcagagtga atcttaagc

19

<210> 11
<211> 59
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 11
aagggcccaa ttacgcagag gggatccaat aaatcaacaa gtcaagttat ggttgctcc

59

<210> 12
<211> 65
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 12
aagggcccaa ttacgcagag ggtcgactta ttaataagac agttcagcac gacgattttg
tgacc

60

65

<210> 13
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide

<400> 13
Cys Asn Glu Glu Ala Trp Ser Gln Asn Arg Arg Ala Glu Leu Ser Tyr
1 5 10 15

<210> 14
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide

<400> 14
Tyr Thr Gly Val Ala Pro Leu Val Asp Asn Asp Glu Thr Val
1 5 10